



CHAPTER 2

Preparing for Installation

This chapter provides information that you need to know before installing a client adapter.

The following topics are covered in this chapter:

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Safety information

Follow the guidelines in this section to ensure proper operation and safe use of the client adapter.

FCC Safety Compliance Statement

The FCC, with its action in ET Docket 96-8, has adopted a safety standard for human exposure to RF electromagnetic energy emitted by FCC-certified equipment. When used with approved Cisco Aironet antennas, Cisco Aironet products meet the uncontrolled environmental limits found in OET-65 and ANSI C95.1, 1991. Proper operation of this radio device according to the instructions in this publication will result in user exposure substantially below the FCC recommended limits.

Safety Guidelines

- Do not touch or move the antenna while the unit is transmitting or receiving.
- Do not hold any component containing a radio such that the antenna is very close to or touching any exposed parts of the body, especially the face or eyes, while transmitting.
- Do not operate the radio or attempt to transmit data unless the antenna is connected; otherwise, the radio may be damaged.
- Use in specific environments:
 - The use of wireless devices in hazardous locations is limited to the constraints posed by the safety directors of such environments.
 - The use of wireless devices on airplanes is governed by the Federal Aviation Administration (FAA).
 - The use of wireless devices in hospitals is restricted to the limits set forth by each hospital.

Warnings

Observe the following warnings when operating the client adapter. The second warning pertains to the PI21AG client adapter, and the third warning pertains to the CB21AG client adapter.



Warning

Do not operate your wireless network device near unshielded blasting caps or in an explosive environment unless the device has been modified to be especially qualified for such use.



Warning

In order to comply with FCC radio frequency (RF) exposure limits, antennas should be located at a minimum of 7.9 inches (20 cm) or more from the body of all persons.

**Warning**

This device has been tested and complies with FCC RF Exposure (SAR) limits in typical laptop computer configurations and this device can be used in desktop or laptop computers with side mounted PC Card slots that can provide at least 0.394 in (1 cm) separation distance from the antenna to the body of the user or a nearby person. Thin laptop computers may need special attention to maintain antenna spacing while operating. This device cannot be used with handheld PDAs (personal digital assistants). Use in other configurations may not ensure compliance with FCC RF exposure guidelines. This device and its antenna must not be co-located or operated in conjunction with any other antenna or transmitter.

Translated versions of these safety warnings are provided in [Appendix B](#).

Unpacking the Client Adapter

Follow these steps to unpack the client adapter:

- Step 1** Open the shipping container and carefully remove the contents.
- Step 2** Return all packing materials to the shipping container and save it.
- Step 3** Ensure that all items listed in the “[Package Contents](#)” section below are included in the shipment. Check each item for damage.



Note If any item is damaged or missing, notify your authorized Cisco sales representative.

Package Contents

Each client adapter is shipped with the following items:

- 1-dBi gain antenna permanently attached by a 6.6-ft (2-m) cable, antenna base, low-profile bracket, two mounting screws, and two plastic wall anchors (PCI cards only)
- *Quick Start Guide: Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG)*
- Cisco Aironet 802.11a/b/g Wireless Adapters (CB21AG and PI21AG) CD

System Requirements

In addition to the items shipped with the client adapter, you also need the following items in order to install and use the adapter:

- One of the following computing devices running Windows 2000 or XP:
 - Laptop or notebook computer equipped with a 32-bit Cardbus slot
 - Desktop personal computer equipped with an empty PCI expansion slot



Note Cisco recommends a 300-MHz (or greater) processor.

- Service Pack 2 for Windows XP (Professional, Home); Service Pack 4 for Windows 2000
- 20 MB of free hard disk space (minimum)
- 128 MB of RAM or greater (recommended)
- The appropriate tools for removing your computer's cover and expansion slot dust cover and for mounting the antenna base (for PCI cards)
- If your wireless network uses EAP-TLS or PEAP authentication, Certificate Authority (CA) and user certificates for EAP-TLS authentication or CA certificate for PEAP authentication
- If your wireless network uses PEAP (EAP-GTC) authentication with a One-Time Password (OTP) user database:
 - A hardware token device from OTP vendors or the Secure Computing SofToken program (version 2.1 or later)
 - Your hardware or software token password
- The Microsoft 802.1X supplicant, if your client adapter is installed on a Windows 2000 device and uses PEAP (EAP-MSCHAPV2) with machine authentication
- All necessary infrastructure devices (such as access points, servers, gateways, user databases, etc.) must be properly configured for any authentication type you plan to enable on the client.
- The following information from your system administrator:
 - The logical name for your workstation (also referred to as *client name*)
 - The protocols necessary to bind to the client adapter, such as TCP/IP
 - The case-sensitive service set identifier (SSID) for your RF network
 - If your network setup does not include a DHCP server, the IP address, subnet mask, and default gateway address of your computer
 - The wired equivalent privacy (WEP) keys of the access points with which your client adapter will communicate, if your wireless network uses static WEP for security
 - The username and password for your network account
 - Protected access credentials (PAC) file if your wireless network uses EAP-FAST authentication with manual PAC provisioning

Site Requirements

This section discusses the site requirements for both infrastructure and client devices.

For Infrastructure Devices

Because of differences in component configuration, placement, and physical environment, every network application is a unique installation. Therefore, before you install any wireless infrastructure devices (such as access points, bridges, and base stations, which connect your client adapters to a wired LAN), a site survey must be performed to determine the optimum placement of these devices to maximize range, coverage, and network performance. Appendix F, which is provided for people who are responsible for conducting a site survey, explains how the site survey utility can be used to determine the best placement for infrastructure devices within a wireless network.

**Note**

Infrastructure devices are installed and initially configured prior to client devices.

For Client Devices

Because the client adapter is a radio device, it is susceptible to RF obstructions and common sources of interference that can reduce throughput and range. Follow these guidelines to ensure the best possible performance:

- Install the client adapter in an area where large steel structures such as shelving units, bookcases, and filing cabinets will not obstruct radio signals to and from the client adapter.
- Install the client adapter away from microwave ovens. Microwave ovens operate on the same frequency as the client adapter and can cause signal interference.

